

Memorandum

To: CHAIR AND COMMISSIONERS

CTC Meeting: March 20-21, 2025

From: TANISHA TAYLOR, Executive Director

Reference Number: 4.8, Action – ***YELLOW REPLACEMENT ITEM***

Prepared By: Jon Pray
Assistant Chief Engineer

Published Date: March 7, 2025

Subject: Comments on the Draft 2025 State Highway System Management Plan

ACTION UPDATE: Comment letter added as Attachment B.

Recommendation:

California Transportation Commission (Commission) staff recommend the Commission approve and transmit comments on the Draft 2025 State Highway System Management Plan to the California Department of Transportation (Caltrans). Attachment B will be updated with the proposed comments on March 14, 2025.

Issue:

Caltrans is required to update the State Highway System Management Plan every two years pursuant to Section 164.6 of the Streets and Highways Code and submit the draft State Highway System Management Plan to the Commission for review and comment no later than February 15 of each odd-numbered year. Caltrans is required by statute to make the plan available to regional transportation agencies for review and comment. The final plan includes and responds to comments from the Commission and these agencies.

The Commission received the Draft 2025 State Highway System Management Plan on February 28. Commission staff are working to prepare proposed comments, which will be included in an updated version of this agenda item to be published on March 14, 2025.

The Draft 2025 State Highway System Management Plan can be accessed on the following website: <https://dot.ca.gov/programs/asset-management/state-highway-system-plan>. The Executive Summary is included as Attachment A.

Background:

California Streets and Highways Code Section 164.6 requires Caltrans to prepare a State Highway System Management Plan that integrates maintenance, rehabilitation, and operation into a single management plan, which includes a ten-year rehabilitation plan for the State Highway Operation and Protection Program (SHOPP) and a five-year maintenance plan. The

State Highway System Management Plan utilizes national and state performance measures and targets for asset classes. The plan is required to include specific quantifiable accomplishments, goals, objectives, costs and performance measures consistent with the asset management plan required by Section 14526.4 of the Government Code. Caltrans is required to prepare an update to this plan every two years.

The State Highway System Management Plan includes both a needs assessment and an investment plan. The needs assessment estimates the costs necessary to close all condition and performance gaps on the State Highway System and is not constrained by current funding levels. The investment plan defines how available funding with budget constraints is recommended to be allocated and prioritizes where available resources should be focused. It must attempt to balance resources between SHOPP activities and maintenance activities to achieve identified milestones and goals at the lowest possible long-term cost and identify projected future SHOPP costs that would be avoided if the plan recommends an increase in maintenance spending.

Attachments:

- Attachment A: Draft 2025 State Highway System Management Plan – Executive Summary
- Attachment B: Draft Commission Comment Letter on the Draft 2025 State Highway System Management Plan

Reference No.: 4.8
March 20-21, 2025
Attachment A



DRAFT

02/21/25

2025

State Highway System Management Plan

Prepared by the California Department of Transportation in accordance with
Streets and Highways Code 164.6

June 1, 2025

June 1, 2025

Prepared by
California Department of Transportation
in accordance with Streets and Highways Code 164.6

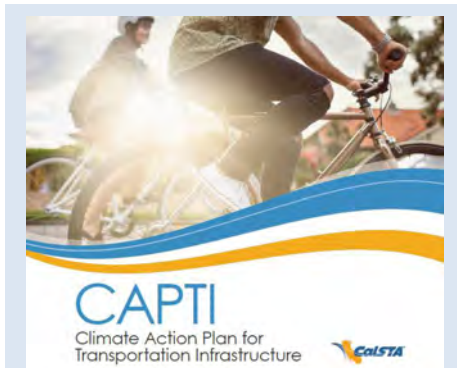
Executive Summary

State Highway System Management Plan

The 2025 State Highway System Management Plan (SHSMP) presents a performance driven and integrated management plan for California's State Highway System (SHS). SHS needs, investments, and resulting performance projections for the 10-year period spanning July 2025 to June 2035 are presented in this Plan. The SHSMP aligns with the California Department of Transportation (Caltrans) Strategic Plan and the Climate Action Plan for Transportation Infrastructure (CAPTI).

About the SHSMP

The *State Highway System Management Plan (SHSMP)* integrates the maintenance, rehabilitation, and operation of the State Highway System (SHS) into a single plan and enables Caltrans to meet state and federal asset management requirements, while aligning transportation investments with priority state climate, health, and social equity goals. The plan maintains its focus on a “fix-it-first” approach to meet defined condition targets, while prioritizing a climate resilient transportation system that reduces greenhouse gas emissions, thereby reducing risk to state transportation assets in alignment with the *Climate Action Plan for Transportation Infrastructure (CAPTI)*.



CAPTI is a holistic framework and statement of intent for aligning state transportation infrastructure investments with state climate, health, and social equity goals, built on the foundation of the “fix-it-first” approach established in SB 1.

The SHSMP serves as a logical extension to the *California Transportation Asset Management Plan (TAMP)*, establishing asset classes, performance measures, and targets adopted by the California Transportation Commission as required under California Government Code 14526. It identifies, from broader state and local transportation goals, the elements applicable to the SHS and operationalizes these in an executable 10-year plan. Moreover, the 2025 SHSMP builds on the performance driven framework from prior plans, and further strengthens integration with the *Caltrans 2024-2028 Strategic Plan*, and CAPTI.

The SHSMP is founded on core principles of asset management, applying an objective, data-driven, analytical approach to inform transportation investments based on measured conditions, performance objectives, and targets. With the introduction of the first SHSMP back in 2017, siloed, single asset-focused funding strategies of the past were replaced. This improved practice continues to evolve in the current plan, providing the flexibility at the regional level to leverage available funding to address multiple performance objectives within a single project. This performance management methodology allows Caltrans to integrate multi-

modal transportation options into traditional rehabilitation work to provide a cost-effective way to expand mode choice and reduce transportation related emissions.

The SHSMP presents the fiscally unconstrained costs necessary to achieve defined performance targets on the SHS regardless of funding source and availability. The plan then prioritizes these needs in a fiscally constrained investment plan that considers the context of other infrastructure needs, system operations, and available state and federal funding.

This plan also accounts for the impact of projects funded by the *Infrastructure Investment and Jobs Act (IIJA)*, signed into law in late 2021. These federal funds supplemented the existing state transportation funding from SB 1, the *Road Repair and Accountability Act of 2017*. Together, these investments have played a critical role in advancing California's transportation priorities and addressing long-term infrastructure needs.



The Infrastructure Investment and Jobs Act includes provisions related to federal-aid highway, transit, highway safety, motor carrier, research, hazardous materials, and rail programs. It also includes federal policy direction and funding in the areas of climate action, zero-emission vehicle deployment, social equity, goods movement and multi-modal transportation investment.

The 2025 SHSMP builds on the department's commitment to expand transportation alternatives for all users of the system, including facilities that support bicycle, pedestrian, and transit options. Furthermore, to meet the requirements of SB 960, enacted in 2024, this plan quantifies expected bicycle and pedestrian work over the next 10 years.

State and Federal Requirements

Under California statutes, Caltrans is the state agency responsible for planning, developing, maintaining, and operating the legislatively designated SHS and a variety of supporting infrastructure. The SHSMP fulfills the requirements of the Streets and Highway Code section 164.6 for a 10-Year State Highway Operation and Protection Program (SHOPP) Plan and a 5-Year Maintenance Plan.

California Government Code Section 164.6 calls for Caltrans to prepare a State Highway System Management Plan. The SHSMP is also consistent with the asset management requirements in IIJA and federal Transportation Performance Management (TPM) regulations.

Highway Infrastructure Assets on California's State Highway System

The SHS includes a wide variety of physical assets, including the four primary asset classes – Pavement, Bridges and Tunnels, Drainage, and Transportation Management Systems (TMS) – as shown in Figure A.

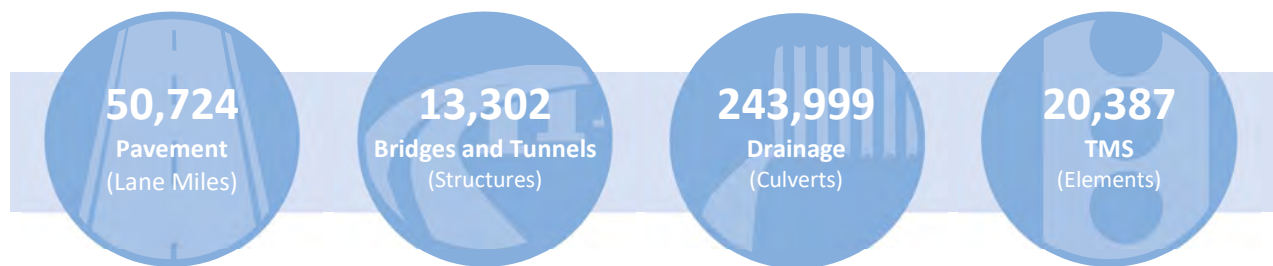


Figure A: SHS Primary Asset Classes

Notes:

- The pavement quantity reflects the total surveyed lane miles and does not include collection gaps from road closures, detours, and construction zones.
- The drainage quantity represents only the culverts inspected to date.

Inventory and Conditions for State Highway System Assets

A breakdown of the baseline SHS inventory and conditions for primary and supplementary assets is presented in Table A. These quantities represent the most current and best available information at the time of report preparation.

Table A. Existing SHS Inventory and Baseline Conditions for Primary and Supplementary Assets

Existing SHS Inventory and Baseline Conditions					
Performance Objective	Inventory	Good	Fair	Poor	
Primary Asset Classes					
Pavement ¹	50,724 Lane Miles	53.4%	45.2%	1.4%	
Bridges and Tunnels	255,516,578 Square Feet	44.1%	51.1%	4.8%	
Drainage ²	22,953,874 Linear Feet	74.0%	16.5%	9.4%	
Transportation Management Systems	20,387 Each	78.1%	N/A	21.9%	
Supplementary Asset Classes					
Bicycle and Pedestrian Infrastructure	7,877,475 Linear Feet	67.4%	14.7%	17.9%	
Drainage Pump Plants	290 Each	23.8%	34.1%	42.1%	
Highway Lighting	100,539 Each	35.7%	15.4%	48.9%	
Office Buildings	2,669,524 Square Feet	0.2%	72.0%	27.8%	
Overhead Sign Structures	18,110 Each	60.9%	31.7%	7.4%	
Safety Roadside Rest Areas	86 Locations	33.7%	34.9%	31.4%	
Transportation Related Facilities	7,092,580 Square Feet	48.3%	12.6%	39.1%	
Weigh-In-Motion Scales	164 Stations	39.0%	50.0%	11.0%	

Notes:

¹The pavement inventory reflects the total surveyed lane-miles and does not include collection gaps from road closures, detours, and construction zones.

²The drainage quantity represents only the culverts inspected to date.

Performance Management

The SHSMP includes a Needs Assessment to achieve the established performance targets and an Investment Plan to guide SHS and related infrastructure management. The Needs Assessment is an aggregation of numerous analyses that fully defines the existing inventory or deficiency, condition or performance targets, existing pipeline of work, a gap analysis, and cost estimate to close the gaps (Figure B). Collectively, these steps are referred to as “Performance Management” and are a requirement of IJJA.



Figure B: Steps to Carry Out the Needs Assessment

Managing SHS Needs

The 10-year Needs Assessment identifies a total need of \$111.8 billion (Figure C). This is broken down as \$84.9 billion in historically reported plan components, \$18.5 billion in objectives included since the 2019 SHSMP, and \$8.3 billion in major maintenance and field maintenance crews. These needs represent the costs to maintain existing SHS assets, reduce fatalities and serious injuries on the system, expand access to multi-modal-transportation options (i.e., bicycle, pedestrian, and transit), and improve resiliency of the system to growing climate threats (Table B).

While the total estimated SHOPP and Maintenance need is lower than the prior two plans, it remains relatively level in comparison to plan-over-plan trends from earlier plans. The needs in this plan reflect both significant increases and decreases. Costs associated with repairs following major storms and other climate induced events have been steadily on the rise over several years with increasing magnitude and frequency. A larger reserve is needed to ensure that funding for future emergency events is balanced with the needs of projects in the SHOPP pipeline. By contrast, the near-term 10-year needs in climate adaptation and resilience work have been significantly reduced as a result of revised climate models and projections from the scientific community. Corrections and updates to data for locations of new bicycle and pedestrian infrastructure needs have resulted in a significant reduction in the costs estimated to address these needs.



Figure C: 10-Year Needs by SHSMP

The total of needs identified for the Primary Assets – Pavement, Bridges and Tunnels, Drainage, TMS – have increased in this plan. In prior plans, total needs have generally been decreasing and leveling out due to sustained investments. However, increased construction costs reflected in construction contract award amounts over the past couple years, in particular in pavement and bridge work, are leading to increased overall costs in addressing these needs, even in instances where the amount of work remains relatively constant from plan to plan.

The range of needs represented in the SHSMP is extensive, and available funding will address approximately 63% of the identified needs.

Investment Plan

The SHSMP presents a fiscally constrained allocation of expected funding for the maintenance, rehabilitation, and operation of the SHS as an Investment Plan. The Investment Plan presents a balanced plan to focus available funding on more than 30 different objectives. Investments include improving physical asset conditions following a “fix-it-first” commitment necessary to achieve established performance targets. Other objectives improve safety, continue priority investments in bicycle and pedestrian infrastructure, building facilities that encourage multi-modal transportation options, and improving system resiliency through climate adaptation projects. These investments collectively provide a performance driven plan for maintaining the physical infrastructure, improving operations, building system resiliency, and promoting equity in transportation through modal choice and system access.



Figure D: 10-Year SHOPP and Maintenance Investments

The SHSMP Investment Plan considers factors such as existing conditions, system performance, pipeline of projects, legislative and legal mandates, consequences of inaction, climate change, and environmental stewardship to arrive at the proposed allocation of funding. These factors are systematically evaluated through a trade-off analysis, balancing multiple competing priorities, and acknowledging that no one combination of investments will fully address all the identified needs for the SHS. A breakdown of SHOPP and Maintenance needs and recommended investments for the 10-year period are shown in Table B.

Table B. 10-Year Needs Assessment and Investment Plan

10-Year Needs Assessment and Investment Plan			
Program	10-Year Need (\$B)	10-Year Investment (\$B)	Annual Unfunded Need (\$B/yr)
Maintenance Program	\$8.3	\$8.1	\$0.02
SHOPP Historically Reported Objectives ¹	\$84.9	\$58.1	\$2.7
SHOPP Objectives Introduced since the 2019 SHSMP ²	\$18.5	\$4.6	\$1.4
Total³	\$111.8	\$70.7	\$4.1

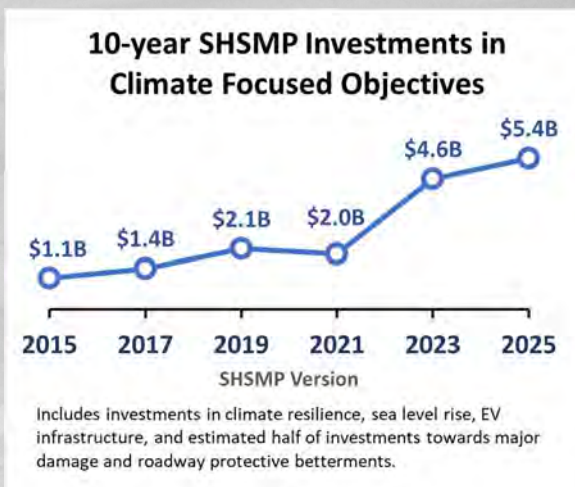
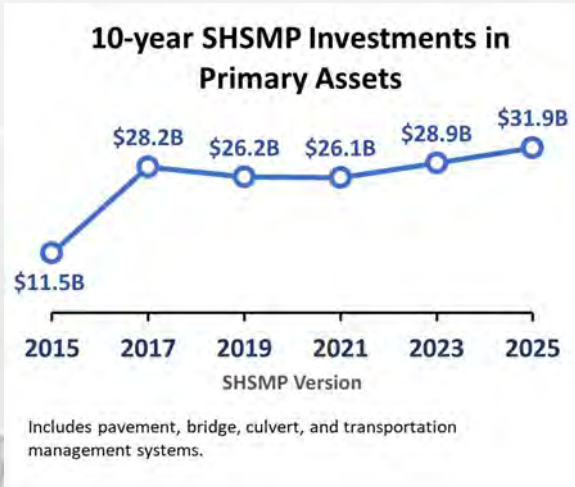
Notes

¹Includes SHOPP Major and Minor needs

²Includes new objectives introduced since the 2019 SHSMP – Mobility Hubs, Bicycle and Pedestrian Infrastructure, Fish and Wildlife Connectivity, and Climate Adaptation and Resilience.

³Totals may differ from the sum of components due to rounding.

The total investment in the SHOPP and Maintenance programs over the next ten years is estimated at \$70.7 billion. Over half of the investment will be directed towards maintaining and rehabilitating existing Primary Assets – Pavement, Bridges and Tunnels, Drainage, and TMS. Significant investments are planned for the construction of new bike and pedestrian infrastructure, climate adaptation and resilience, and reservation funding to address restoration work following storms, wildfire, and other natural hazards.



SHOPP Investments on the State Highway System

Planned investments in the 2025 SHSMP continue Caltrans' commitment to "fix-it-first," focusing on pavement, bridge, drainage, and TMS. Investments in these primary assets have been gradually increasing over the prior two plans, in step with rising material and labor costs.

Additional federal funding has enabled greater investments in other key objectives, such as bike and pedestrian infrastructure, climate resilience measures, electric vehicle charging infrastructure, as well as other ancillary highway infrastructure elements.

While asset conditions show year-over-year improvements since implementing a performance-based asset management approach, available funding still only addresses approximately 63% of the needs.

Note, SHOPP investments presented in these charts are as reported in prior SHSMP documents and the Ten-Year SHOPP Plan.

Value of Physical Assets on the SHS

Investments in the SHS over time have created a highway network with an estimated replacement cost of \$462 billion (Figure E). A breakdown of the major system component replacement values is shown here, where the replacement value is calculated using the inventory quantity multiplied by the unit replacement cost.

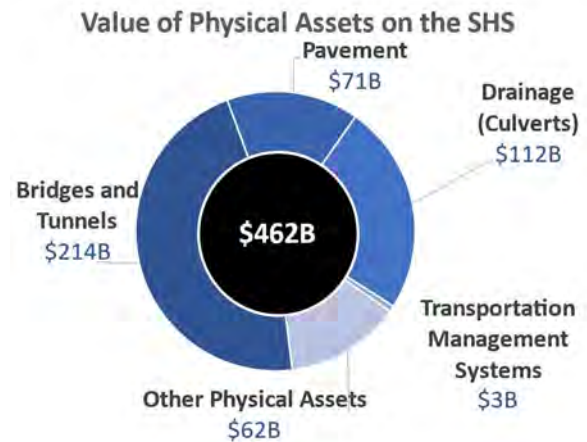


Figure E: Value of Physical Assets on the SHS

Projected 10-Year Performance Accomplishments

Considering the projected funding, anticipated deterioration of assets, and increasing operational demands over the next ten years, Caltrans expects to make significant progress towards targets in maintenance and rehabilitation work and operational improvements. Table C highlights combined expected accomplishments from the Maintenance and SHOPP programs for the four primary asset classes by 2035. This table quantifies project-level outputs expected across the spectrum of treatments by condition category. Quantities have been rounded for presentation.

Table C. Estimated 10-Year Performance Accomplishments (2025-2035)

Estimated 10-Year Performance Accomplishments (2025-2035)			
Asset Class	Good Condition (Preventive Maintenance)	Fair Condition (Maintenance and SHOPP)	Poor Condition (Maintenance and SHOPP)
Pavement	10,172 Lane Miles	28,234 Lane Miles	822 Lane Miles
Bridges and Tunnels	137.9 million Square Feet	96.2 million Square Feet	14.2 million Square Feet
Drainage (Culverts)	-	2.4 million Linear Feet	1.3 million Linear Feet
TMS	800,000 Maintenance Checks/Repairs	-	7,026 each

While the available funding is anticipated to support the work needed to meet performance targets for the primary assets, it is not adequate to meet all the broader needs the plan identifies for the SHS. As such, limited investment levels are required for some objectives. For instance, investments in supplementary assets are at levels that will make improvements but fall below what is necessary to achieve the Desired State of Repair (DSOR). Improved asset management strategies and a focus on project delivery will result in visible improvement to the transportation system in California over time. Significant work has been done to implement new programs and expand Caltrans’ asset management breadth that will allow the department to continue making progress toward improving the State Highway System in California.

Projected 10-Year Conditions

The condition of the four Primary assets is expected to continue to improve over the upcoming ten-year plan period. Caltrans is expected to meet the SB 1 targets early in the plan period in 2027, as summarized in Table D. SB 1 includes a performance requirement to fix not less than an additional 500 bridges over a 10-year period ending in 2027. The SB 1 fix bridge target was surpassed in 2022.

Table D. SB 1 Targets for 2027

SB 1 Targets for 2027 for Primary Assets	
Asset Class	SB 1 Target
Pavement	98% Good or Fair Condition 90% level of service (LOS) achieved for maintenance of potholes, spalls, and cracks
Bridges	Fix an additional 500 bridges
Culverts	90% Good or Fair Condition
TMS	90% Good Condition

The 10-year condition-based targets for pavement, culverts, and TMS are aligned with targets set forth in the TAMP, summarized in Table E. By meeting TAMP targets for these three objectives, Caltrans will surpass SB 1 targets. Condition targets under both SB 1 and the TAMP are expected to be maintained through 2035.

Table E lists the targets established in the TAMP and provides comments on projected conditions for the four primary asset classes at the end of the Plan period relative to baseline conditions.

Table E. Transportation Asset Management Plan 10-year Targets

TAMP 10-year Performance Targets for Primary Assets					
Asset Class		Good	Fair	Poor	Projected 10-Year Condition Relative to Baseline
Pavement	Class 1	60%	39%	1%	Pavement conditions are expected to improve across all pavement classes early in the plan and remain near target conditions over the remainder of the plan period.
	Class 2	55%	43%	2%	
	Class 3	45%	53%	2%	
Bridges and Tunnels		48.5%	50%	1.5%	Continued improvement in bridge conditions is expected over the plan period. Work underway on several large bridge projects and additional funding from IJA are helping close the remaining gap.
Culverts		70%	20%	10%	Culvert conditions are currently meeting targets and are expected to remain relatively steady over the plan period.
TMS		90%	N/A	10%	TMS is expected to show significant improvement in conditions early in the plan as a result of key projects in Northern California expected to be completed soon.

Optimizing Investments in California’s Transportation Infrastructure

The 2025 SHSMP carries forward the major paradigm shift to a performance driven asset management framework, further strengthening Caltrans’ investment decision-making capabilities to optimize the condition safety and performance of the SHS with available funding. These changes collectively improve the management of the SHS, focus activities on performance in alignment with the Caltrans 2024-2028 Strategic Plan and CAPTI, and provide structure and transparency to improve the management of our assets.



CALIFORNIA TRANSPORTATION COMMISSION

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STATE OF CALIFORNIA
GAVIN NEWSOM, Governor



March 21, 2025

Mr. Tony Tavares, Director
California Department of Transportation
1120 N Street, MS 49
Sacramento, CA 95814

RE: Comments on the Draft 2025 State Highway System Management Plan

Dear Director Tavares:

California Streets and Highways Code Section 164.6 requires the California Department of Transportation (Caltrans) to prepare and submit a State Highway System Management Plan to the California Transportation Commission (Commission) for review and comment not later than February 15 of each odd numbered year, and the final plan shall be transmitted to the Governor and the Legislature not later than June 1 of each odd numbered year. This biennial plan, along with the Transportation Asset Management Plan, provide the policy foundation and performance framework for future Commission actions related to the State Highway Operation and Protection Program. The Commission has received and reviewed the Draft 2025 State Highway System Management Plan.

The Commission appreciates Caltrans' continued efforts to develop a comprehensive and performance-based plan to manage all assets on the State Highway System, in particular the inclusion of the 2026 State Highway Operation and Protection Program performance targets for bicycle and pedestrian infrastructure, as required by Senate Bill 960 (Wiener, 2024), as well as alignment with the Caltrans 2024-28 Strategic Plan and the Climate Action Plan for Transportation Infrastructure. The Draft 2025 State Highway System Management Plan provides significant detail on the baseline condition of each performance objective, as well as the unconstrained investment needs to bring the objectives to the desired state of repair.

The Commission offers the following comments and questions on the Draft 2025 State Highway System Management Plan:

1. How did the challenges of declining revenue projections and increasing cost pressures impact the development of the investment strategies?
2. Bridge and Tunnel Health is not projected to meet the 1.5% poor condition performance target in both 2026/27 and 2034/35 (Table 4-4):
 - a. How was it determined to fund 89% of the Performance Gap for this asset class (Table 4-2)?

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TANISHA TAYLOR, Executive Director

- b. When is this asset class projected to meet the 1.5% poor condition performance target?
 - c. What support can the Commission provide to overcome barriers to success?
3. On page 5, the following statement is made: "...the near-term 10-year needs in climate adaptation and resilience work have been significantly reduced as a result of revised climate models and projections from the scientific community." Please explain how this shaped the proposed investments.
4. In Section 1.8, A Multi-Modal Approach To Transportation, clarification should be considered to emphasize that, while various transit priority facilities may be accomplished through the State Highway Operation and Protection Program, new traffic lanes are not eligible under Government Code 14526.5.
5. How was the proposed 10-year investment of \$1,547,000,000 for Stormwater Mitigation determined (Table 4-2) and what does it mean for Caltrans' ability to meet Statewide requirements for Trash and Total Maximum Daily Loads?
6. How was the 10-year investment level of \$301 million for ADA Pedestrian Infrastructure (Table 4-2) determined?
7. How is the Climate Adaptation and Resilience funding distributed throughout the state, what types of projects will be funded in the State Highway Operation and Protection Program, and how will the performance be measured? How was wildfire evacuation factored into the investment level for the Climate Adaptation and Resilience objective?
8. Has Caltrans evaluated whether an increased investment in Protective Betterments (currently proposed at 11% of the Performance Gap, per Table 4-2) could decrease the investments needed for Major Damage (Emergency Opening)?

We understand that regional transportation agencies and other stakeholders have also provided comments and appreciate your consideration of all of the comments prior to plan finalization. If you have any questions or wish to discuss the Commission comments further, please contact Tim Sobelman, Chief Engineer, at (916) 825-6674 or Jon Pray, Assistant Chief Engineer, at (916) 751-8254.

Sincerely,

DARNELL GRISBY
Chair, California Transportation Commission

- c: Commissioners, California Transportation Commission
Tanisha Taylor, Executive Director, California Transportation Commission
Michael Johnson, Caltrans State Asset Management Engineer